

ABSTRACT OF DISCLOSURE

A method optimizing a recording current in consideration of operating temperatures of a hard disk drive and a method of setting a recording density in consideration of tracks per inch (TPI) or adjacent track erasure (ATE) characteristics. The method of optimizing the recording current measures a rate of errors under a test condition corresponding to the operating temperature of a hard disk drive, while changing a recording parameter, selects a recording parameter value corresponding to a smallest rate of errors, and optimizes the recording current for the hard disk drive under operating environmental conditions using the selected recording parameter value.